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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-------------------------|---------------------|------------------|
| 10/009,227 | 03/20/2002 | Claus Nygaard Rasmussen | U 013710-8 | 5570 |
| 140 | 7590 | 03/26/2004 | EXAMINER | |
| LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023 | | | NORRIS, JEREMY C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2827 | |

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/009,227 | Applicant(s) RASMUSSEN ET AL. | |
| | Examiner Jeremy C. Norris | Art Unit 2827 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

Applicants appear to have intended to provide a Form PTO-1449 on 07 February 2002. However, no such form has been received by the Office. Therefore, any such documents that may have been on said form have not been considered by the Examiner, unless they appear on the accompanying Form PTO-892.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21 and 24-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 21, the phrase "e.g." (interpreted as "for example") renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 24 recites the limitation "and *it* comprises" (emphasis added) in line 2. There is insufficient clear antecedent basis for this limitation in the claim.

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Regarding claim 30, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 15-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,703,664 (hereafter Cronin) in view of US 5,017,553 (hereafter Whitlow).

Cronin discloses, referring to figure 4, a superconductor, wherein the conductors (31) are connected in series with a current detector (32) for overcurrent detection, and comprising an electrical conductor (30) electrically connected in parallel with both the conductors of the superconductor and the current detector, and said electrical conductor has a higher resistance than the superconductor with the conductor is in its superconducting state (see col. 5, lines 20-30). Cronin does not specifically state that the superconductor is a cable with cable conductors [claims 15, 24]. However, it is well known in the art to comprise superconductors of superconducting cables with cable conductors as evidenced by Whitlow (see figure 3). Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to comprise the superconductor of Cronin with the cable taught by Whitlow. The motivation for doing so would have been to use a high temperature superconductor with high strength. Thus making the device more reliable. Additionally, the modified invention of Cronin discloses wherein the electrical conductor is placed outside the cryostat (33) of the superconducting cable [claims 16, 17, 25, 26], wherein the current detector comprises a current limiter [claim 29], wherein the current detector is constituted by a superconducting material (of YBCO, see Whitlow: col. 4, lines 1-5) which quenches at a lower current than the superconducting cable [claims 19, 20, 30], and is constituted by a current-dependent

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resistance (see col. 5, lines 30-55) [claim 22], wherein the current detector comprises a circuit breaker [claim 21].

Alternately, the modified invention of Cronin discloses, referring to figure 3, wherein the electrical conductor (15) is placed inside the cryostat (17) of the superconducting cable [claims 18, 27] and performing the function of a cold shunt (see col. 3, lines 45-65), is wound in such a way that the current in this is reduced to a minimum during normal operation [claims 23, 28].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents disclose superconductors and overcurrent protection devices:

| | |
|--------------|-------------------|
| US 3,454,831 | Willard, |
| US 3,925,707 | Bhate et al., |
| US 5,083,232 | Bergsjö et al., |
| US 5,276,281 | Sato et al., |
| US 5,670,459 | Sato et al., |
| US 5,846,910 | Funahashi et al.. |

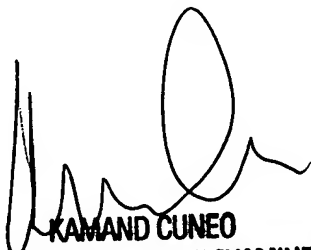
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCSN



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SUPERVISORY PATENT EXAMINER
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